

U.S. Patent Application Serial No. 10/680,412
Response filed June 9, 2006
Reply to OA dated March 13, 2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A pickup device comprising:

a light source which irradiates light beam onto an optical recording medium; and

a casing including an optical element provided in an optical path oriented from the light source to the optical recording medium, and a communication hole having an end at which the light source is provided and an another end at which the optical element is provided, the communication hole connecting the light source to the optical element, wherein

the communication hole has a heat radiator which radiates, to outside, heat between the light source and the optical element,

wherein the heat radiator is a heat radiation path which is formed across an axis of the communication hole and connects inside of the communication hole to the outside of the communication hole, and

wherein a heat radiation path is open to a rotation surface of the optical recording medium.

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Claim 2 (Canceled)

Claim 3 (Currently Amended): The pickup device according to ~~claim 2~~ claim 1, wherein the heat radiation path includes at least a set of paths whose center axes are substantially collinear with each other.

Claim 4 (Canceled)

Claim 5 (Currently Amended): The pickup device according to ~~claim 4~~ claim 1, wherein an air flow receiver having a wall facing an air flow generated by rotation of the optical recording medium is provided at an edge of an opening of the heat radiation path, which is open to the rotation surface of the optical recording medium.

Claim 6 (Currently Amended): The pickup device according to ~~claim 2~~ claim 1, wherein the heat radiation path has an outer opening open to the outside of the communication hole, the outer opening being open upward during normal use of the pickup device.

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Claim 7 (Currently Amended): The pickup device according to ~~claim 2~~ claim 1, wherein the heat radiation path has an outer opening open to the outside of the communication hole, the outer opening being open downward during normal use of the pickup device.

Claim 8 (Currently Amended): The pickup device according to ~~claim 2~~ claim 1, wherein the heat radiation path has a dust-proof unit which prevents dust from flowing into the communication hole through the heat radiation path from the outside.

Claim 9 (Original): The pickup device according to claim 8, wherein the dust-proof unit is a dust guard provided at a predetermined distance from an outer opening of the heat radiation path, which is open to the outside of the communication hole, the dust guard covering at least an opening area of the outer opening.

Claim 10 (Original): The pickup device according to claim 8, wherein the dust-proof unit has a first dust guard provided at a first distance from the outer opening and covering at least part of the opening area of the opening, and a second dust guard provided at a second distance from the outer opening and covering the other part of the opening area of the outer opening than the part covered by the first dust guard, the second distance being different from the first distance.

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Claim 11 (Original): The pickup device according to claim 8, wherein
the dust-proof unit is a filter provided in the heat radiation path.

Claim 12 (Original): The pickup device according to ~~claim 2~~ claim 1, wherein
the heat radiation path is bent forming an inner wall surface opposed to the outer opening
between an outer opening of the communication hole, which is open to the outside, and an inner
opening of the communication hole, which is open to inside.

Claim 13 (Original): The pickup device according to ~~claim 2~~ claim 1, wherein
a heat transfer agent is filled in the heat radiation path.